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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,287	05/31/2001	Stanislaw M. Kocinski	1067.038	8617

7590 12/18/2003

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Boyle Fredrickson Newholm Stein & Gratz SC
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EXAMINER

BUI, BRYAN

ART UNIT	PAPER NUMBER
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2863

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/871,287

Applicant(s)

KOCIMSKI, STANISLAW M.

Examiner

Bryan Bui

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23-27 and 33 is/are allowed.
- 6) ☒ Claim(s) 1-5, 10-12, 17, 19, 20 and 28-32 is/are rejected.
- 7) ☒ Claim(s) 6-9, 13-16, 18, 21 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Notice to Applicant

1. Applicant's papers filed on 10/10/2003 have been received and entered. Claims 16, 17, 23 have been amended. Claims 25-33 have been added. Claims 1-33 are pending in the application.
2. Applicant's remarks have been considered but it is smooth in view of the new ground of the rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 10-12, 17, 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al (U.S. Patent No. 5,808,735).

With respect to claims 1 and 17, Lee et al teach a method of characterizing a sample surface having a surface anomaly region comprising profiling the sample surface to generate surface characteristic data (e.g. figure 4A, semiconductor surface wafer (400) having smooth surface (420), rough surface (410) and column 4, line 44 to column 5, line 17); generating histogram and measuring a surface anomaly in the surface anomaly region (e.g. Figure 4B and column 11, line 62 to column 12, line 18), wherein the surface profile data includes data indicative of a depth (leveling of the surface (e.g. column 3, lines 43+)

With respect to claims 2-5, 10-12, 19-20, Lee et al further discloses a collecting zone includes surface anomaly region having at least one of erosion and dishing from the surface characteristic data (the information/defect map of anomalies on surface of defect pixel in column 1, lines 49-59, column 2, lines 43+, column 3, lines 43-47); It is noted that the terms of dishing and erosion are also well-known in the art which realize as the degree of such a concavity and to be worn or eroded (Dictionary).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (U.S. Patent No. 5,808,735) as applied to claims rejection above, and further in view of Davis Basely "Atomic force microscope", 10 pages.

With respect to claims 28-32, as set forth the rejection above, Lee et al disclose an instrument (microscope) to perform profiling step and the surface characteristic data is used to produce indicative of three dimensional image (e.g. column 4, lines 20-57). However, Lee et al does not expressly disclose the instrument is an atomic force microscope. Davis Basely discloses the precise manner technique of atomic force microscope that scanned proximity probe microscope provide very high resolution images of various sample properties and measures topography with a force probe to create three dimensional image (pages 1-3, 5-8). It would have been obvious to one of

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ordinary skill in the art to modify a technique of Lee et al to include an atomic force microscope as a type of scanned proximity probe microscopes to profiling (identify and classifying) the locations of anomalies on the wafer surface by topography image as a three dimensional image. The motivation for doing so would have been to provide high resolution image of sample surface.

Allowable Subject Matter

1. Claims 23-27 and respective dependency claims are allowed because the prior art of the record do not discloses the claimed combination as require: step (D) in claim 23; "wherein the histogram includes a first peak corresponding to a generally planar portion of the sample surface, and a second peak corresponding to the surface anomaly (claim 25); wherein the histogram...the surface characteristic data (claim 26) ; step (C) in claim 27.
2. Claims 6-9, 13-16, 18 and 21-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan Bui whose telephone number is 703-305-4490. The examiner can normally be reached on M-Th from 7am-4pm, and Alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Barlow can be reached on 703-308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

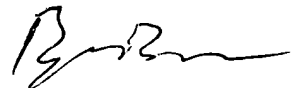
Correspondence in patent-related matters to organizations reporting to the Commissioner for Patents must now be addressed to:

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



BRYAN BUI
PRIMARY EXAMINER

BB
December 12, 2003